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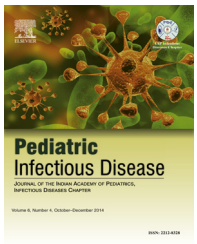


Original Article

# Clinical profile of childhood cutaneous tuberculosis in eastern India – A prospective study

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ABSTRACT

*Background:* Cutaneous tuberculosis is an important infectious public health problem in India. The increasing incidence of childhood cutaneous tuberculosis is a marker of active transmission of the disease in the community.

*Materials and methods:* All cases of cutaneous tuberculosis in patients ≤14 years of age were included in the study. After a thorough history taking and examination, the patients were subjected to necessary investigations. They were categorised into different type of cutaneous tuberculosis and were started on anti-tubercular therapy (ATT) accordingly.

*Results:* A total of 128 cases of cutaneous tuberculosis were identified within the study period. The clinical types identified in children in decreasing order of frequency were, lupus vulgaris, lichen scrofulosorum, tuberculosis verrucosa cutis, scrofuloderma, tuberculous gumma, miliary tuberculosis and papulonecrotic tuberculid. Multiple clinical types were seen in 7 patients.

*Conclusion:* A proper diagnosis of cutaneous tuberculosis is very important, as it responds very well to ATT and early diagnosis decreases the chances of complications.



## 1. Introduction

Tuberculosis (TB) still continues to be one of the major public health problems in a developing country like India. Childhood tuberculosis forms a significant group with extrapulmonary disease occurring in about 20% of positive cases. Cutaneous TB accounts for about 1.5% of the extrapulmonary cases.[1] In India the prevalence of paediatric cutaneous TB ranges from 18% to 54% in different case studies reported.[2] In this part of eastern

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India, there is a paucity of studies on childhood cutaneous TB. Moreover, as cutaneous TB has a wide clinical spectrum along with varied atypical presentations mimicking other dermatosis with non-suggestive histopathological and microbiological evidences posing a diagnostic challenge, it is imperative for clinicians to diagnose such cases early and start therapeutic trial with anti-tubercular therapy (ATT). The present study was undertaken with the aim to identify the clinical profile of childhood cutaneous TB in a tertiary health care centre in the eastern part of India.

## 2. Materials and methods

A prospective study was undertaken in the Department of Skin & VD and Paediatrics, IMS & SUM Hospital, Bhubaneswar, Odisha, for a period of 5 years from 2009 to 2013. All the cases of cutaneous TB were identified. Patients of cutaneous TB with age ≤14 years were recruited in the study after informed consent from the guardians. A detail history was noted and local and systemic examination was done along with routine blood investigations, histopathological examination of the skin, Mantoux test, chest X-ray and ultrasonography of abdomen and pelvis for all the patients. Patients identified with associated extracutaneous involvement were referred to specific departments for further management. Patients with pure cutaneous TB were started ATT under category III starting with intensive phase of 2 months of thrice weekly isoniazide, rifampicin, pyrazinamide and ethambutol, and maintenance phase of 4 months of thrice weekly isoniazide and rifampicin.

## 3. Results

A total of 128 cases of cutaneous TB were identified within the study period, out of which 44 (34.38%) were ≤14 years, with most of them in the 6–10 years age group (Table 1). The male to female ratio was 1.2:1. Out of 44 children, 40 (90.91%) belonged to poor socio-economic status, whereas 4 (9.09%) belonged to middle socio-economic status. A family history of tuberculosis was found in 6 (13.64%) patients.

The clinical types identified in children in decreasing order of frequency were lupus vulgaris [18 (40.91%)] (Fig. 1), lichen scrofulosorum [13 (29.55%)], tuberculosis verrucosa cutis [7 (15.91%)] (Fig. 2), scrofuloderma [5 (11.36%)] (Fig. 3), tuberculous gumma [2 (4.55%)] (Fig. 4), miliary TB [1 (2.27%)] (Fig. 5) and papulonecrotic tuberculid [1 (2.27%)]. Multiple

**Table 1 – Demographic pattern.**

| Variable | Frequency ($n$ = 44) | (%) |
|---|---|---|
| **Age** | | |
| Up to 5 years | 1 | 2.27 |
| 6–10 years | 27 | 61.36 |
| 11–14 years | 16 | 36.36 |
| **Sex** | | |
| Male | 24 | 54.55 |
| Female | 20 | 45.45 |
| **Socio-economic status** | | |
| Poor | 40 | 90.91 |
| Middle | 4 | 9.09 |
| **Family history of TB** | | |
| Present | 6 | 13.64 |
| Absent | 38 | 86.36 |


**Fig. 1 – Lupus vulgaris.**

**Fig. 2 – Tuberculosis verrucosa cutis.**

**Fig. 3 – Scrofuloderma with Mantoux positivity.**